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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,569

09/19/2005

Leonard Rexberg

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EXAMINER

GHULAMALI, QUTBUDDIN

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/549,569	<b>Applicant(s)</b> REXBERG, LEONARD	
	<b>Examiner</b> Qutbuddin Ghulamali	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1, 9, 10 are objected to because of the following informalities:

Claim 1, line 2, after "structure includes" a colon --: -- needs to be inserted.

Claim 1, line 6, after "means" the number in parenthesis "(10)" should be deleted.

Claim 10, line 3, after "structure includes" a colon --: -- needs to be inserted.

Claim 10, line 7, after "means" the number in parenthesis "(10)" should be deleted.

Claim 9 is indicated to depend on claim 5. It should be amended to depend on claim 1, because of "means for selecting" recited in claim 1.

Appropriate correction is required.

### ***Information Disclosure Statement***

2. The information disclosure statement filed 9/19/2005, fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-18 are rejected under 35 U.S.C. 102 (e) as being anticipated by Ding et al (US Pub. 2003/0223508).

5. Regarding claims 1, 10, Ding discloses a power amplifier pre-distorter formed by a discrete-time filter structure (a memory FIR filter is disclosed) with filter taps, comprising:

an individual look-up table (a number of lookup tables) for each filter tap, each look-up table representing a sampled polynomial in a variable representing signal amplitude (signal gain) (page 1, section 0012, 0013; page 2, sections 0025, 0028, 0029); and means for selecting, from each filter tap look-up table, a filter coefficient that depends on the amplitude of a corresponding complex signal value to be multiplied by the filter tap (page 3, section 0032, 0037; page 4, section 0044, 0047, 0048, 0049, 0051, 0052; page 5, sections 0055, 0056; page 6, section 0069, 0070, 0073).

Regarding claims 2, 3, 4, 11, 12, 13 Ding discloses the discrete-time filter structure comprises a FIR filter structure (page 4, sections 0048, 0049).

Regarding claims 5, 14, Ding discloses the pre-distorter is comprised of a number of lookup tables, multipliers, adders and filters (see fig. 6) for compensating for changes in a predetermined parameter.

Regarding claims 6, 15 Ding discloses parameter represents average pre-distorter input signal power (page 3, section 0041; page 4, section 0053).

Regarding claims 7, 16 Ding discloses parameter represents amplifier temperature (page 3, section 0041).

Regarding claims 8, 17 Ding discloses parameter represents power amplifier, it is also understood that a power amplifier is composed of transistor or transistors biased (operating point whether linear or nonlinear) to provide appropriate power level.

Regarding claims 9, 18 Ding discloses means for selecting, from each filter tap look-up table, a filter coefficient that depends on the instantaneous signal power of a corresponding complex signal value to be multiplied by the filter tap (page 3, section 0041).

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140

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F. 3d 1428, 46 USPQ 2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F. 3d 1046, 29 USPQ 2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F. 2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F. 2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F. 2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F. 2d 528, 163 USPQ 644 (CCPA 1969).

*A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.*

*Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).*

7. Claims 1, 2, 10, 11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 6 of copending Application No. 10/560,346 of 12/12/2005.

Although the conflicting claims are not identical, they are not patentably distinct from each other because claims of the application are clearly encompassed by claims of the copending application. In other words, every limitation of the instant application is encompassed in the copending Application, for instance claims 1 and 2, in the instant application recite limitations that are broader in scope than that of claim 1 in the copending application i.e., it does not further limit the claim by reciting the limitation “determining a first estimate of a first look-up table assigned to a first filter tap, assuming a second look-up table assigned to a second filter tap is set to predetermined table values; determining a second estimate of the second look-up table, assuming the first look-up table is set to the determined first estimate”, as recited in the copending application. Therefore, given the broader recitation in the instant case, it would have

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been obvious to one skilled in the art at the time the invention was made to present the claim in an alternate way so as arrive at a method of transmitting data in a wireless communication system.

Similarly, claims 10 and 11, in the instant application is encompassed by claim 6 of the copending application without the limitation “determining a first estimate of a first look-up table assigned to a first filter tap, assuming a second look-up table assigned to a second filter tap is set to predetermined table values; determining a second estimate of the second look-up table, assuming the first look-up table is set to the determined first estimate”. Therefore, given the broader scope in the instant case, it would have been obvious to one skilled in the art at the time the invention was made to present the claim in an alternate way so as arrive at a method of transmitting data in a wireless communication system.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

US 6614854 to Chow et al.

US 7397850 to Easley et al.

US 4816914 to Ericsson.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutbuddin Ghulamali whose telephone number is (571)-272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.  
August 5, 2008.

/Chieh M Fan/  
Supervisory Patent Examiner, Art Unit 2611